

*Workshop Materials:
Aligning Performance Tasks with the Common Core
State Standards (CCSS) for Mathematics and the
Illinois Design/Pre-Construction Expectations*

Achieve-NASDCTEc
Career and Technical Education Instructional Tasks Workshop

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Task Template, with Alignment Recording Sheets

Steps for Aligning Mathematics Tasks to the Common Core State Standards (CCSS) and to the National Career Clusters Framework

Before starting alignment work you must become familiar with the CCSS and the National Career Clusters Framework, and specifically the eight Common Core Standards for Mathematical Practice, the CCSS for grades 6-8 and high school, and the relevant Career Cluster and Pathway (in this case, the Design/Pre-construction pathway in the Architecture & Construction cluster).

Step 1. Work the task thoroughly. Think about how students would approach the task making notes on all possible strategies they might use.

Step 2. Compare your work with the answer key/rubric and other instructional support materials and/or with the work of colleagues. Look again for alternate methods and strategies and for content or performances you may have missed in step 1.

Step 3. Identify the content and performances required. Make sure all required content and performances are identified, including those that would be used with the alternative strategies you noted. Focus on what is actually required or stated in the task.)

Step 4. Compare task performances to the CCSS Standards for Mathematical Practice. Match the processes required in the task to the Standards for Mathematical Practice that apply. Identify and list on the **purple** recording sheet (*Task-to-Mathematical-Practice Alignment Recording Sheet*) those Mathematical Practices reflected in the task.

Rate the degree of alignment using the 0-3 scale provided (Rubric 1), and make note of important points concerning alignment and strengths/weaknesses of the task. Where there are partial matches, underline the parts of the standards that are addressed in the task and highlight those parts that are not.

Rating the Alignment of the Performances Required by a Task with the Performances Called for in a Standard		
3	Excellent	The performances of the task are clearly consistent with the performances of the identified standard.
2	Good	This rating is used for a partial match. Performances addressed in the task are consistent with the <u>most critical</u> performances of the identified standard. However, supporting performances of the standard may not be addressed (possibly by design).
1	Weak	This rating is used for a partial match when the most critical performances addressed in the identified standard are NOT addressed in the task. However, supporting performances of the standard are addressed.
0	No Alignment	None of the performances addressed in the task match the performances of the identified standard. (Delete this standard from the list of standards identified as aligned with the task).

RUBRIC 1: RATING PERFORMANCE ALIGNMENT

Task Template, with Alignment Recording Sheets

Step 5. Compare task content and performances to the grade-level (grades 6-8) and high school CCSS. Identify and list on the **blue** recording sheet (*Task-to-CCSS Alignment Recording Sheet*) those CCSS reflected in the task. Rate the degree of content alignment using the 0-3 scale provided (Rubric 2), and also rate the degree of performance alignment using Rubric 1, provided earlier.

Make note of important points concerning alignment and strengths/weaknesses of the task. Where there are partial matches, underline the parts of the standards that are addressed in the task and highlight those parts that are not.

Rating the Alignment of the Content Required by a Task with the Content Called for in a Standard		
3	Excellent	The content of the task is clearly consistent with the content of the identified standard.
2	Good	This rating is used for a partial match. Content addressed in the task is consistent with the <u>most critical</u> content of the identified standard. However, supporting content of the standard may not be addressed (possibly by design).
1	Weak	This rating is used for a partial match when the most critical content addressed in the identified standard is NOT addressed in the task. However, supporting content of the standard is addressed.
0	No Alignment	None of the content addressed in the task matches the content of the identified standard. (Delete this standard from the list of standards identified as aligned with the task).

RUBRIC 2: RATING CONTENT ALIGNMENT

Step 6. Compare task content and performances to the cluster/pathway Knowledge and Skill statements. Identify and list on the **orange** recording sheet (*Task-to-Cluster/Pathway Knowledge and Skills Alignment Recording Sheet*) those Knowledge and Skill statements reflected in the task. Pay particular attention to the Cluster and Pathway Knowledge and Skill statements, since they provide the greatest level of specificity and detail. Rate the degree of content alignment using the 0-3 scale provided earlier (Rubric 2) and rate the degree of performance alignment using Rubric 1, also provided earlier.

Make note of important points concerning alignment and strengths/weaknesses of the task. Where there are partial matches, underline the parts of the standards that are addressed in the task and highlight those parts that are not.

Step 7. Additional considerations. In addition to the alignment of the task with the various sets of standards, the following considerations might be part of your overall review. (*Use the last column of the Alignment Recording Sheets for such task-related comments.*)

- **Task Improvement:** Can the alignment be improved by adjusting content or performances required in the task, providing students with the opportunity to more fully demonstrate their knowledge and skills?
- **Teacher Support Materials:** Are teachers provided with introductory materials, scoring rubrics for student assessment, a solution key, guide to calculator use, or other supplemental materials/explanations if needed?

Task Template, with Alignment Recording Sheets

- **Student Support Materials:** Are students provided with introductory materials, guidelines, expectations or rubrics?
- **Age-Appropriateness Content and Performance Expectations:** Are the task materials and subject matter appropriate for the age and experience of the students for which they are intended?
- **Source of Challenge:** Are there aspects of the task, not related to the content/skills stated in the standards, which might cause difficulty for students? For example, a task might require an over-reliance on personal experience rather than instruction; vocabulary used in a task prompt might cause students to misinterpret the requirements; or the basic criteria for scoring the task might not be clearly articulated for the student.
- **Effective Instruction/Assessment:** Based on expert judgment, research findings, and experience, does the task describe effective instructional and assessment practices? Will it further students' knowledge and/or performance on related tasks? Is it connected to the curriculum or course of study?

Concluding Notes

- (1) This process assumes that the criteria are being used with existing tasks to determine alignment with the CCSS and the cluster/pathway Knowledge and Skill statements. Ideally, specific CCSS and cluster/pathway Knowledge and Skill statements would be identified as the targets for instruction or assessment before the development of the task begins.
- (2) It is important to recognize that the process of determining alignment relies on individual judgment using criteria. Ideally, a group of teachers would convene to use this process to calibrate their judgment—to compare and discuss ratings using the criteria to work toward greater consistency.
- (3) As a next step in this process, a group of teachers at the school or district level who are using these tasks would collect the resulting work from students. Teachers would score and discuss this work as a group and determine whether or not the task actually required students to produce evidence of the content and performance required in the targeted CCSS and cluster/pathway Knowledge and Skill statements. This provides a means for improving tasks while engaging teachers in a continuous cycle of professional development for advancing classroom instruction and assessment.

*Task Template, with Alignment Recording Sheets***Sample Task – Building Construction**

The Smiths are working with an architect and contractor to finalize their building plans with the dimensions in **Figure 4**.

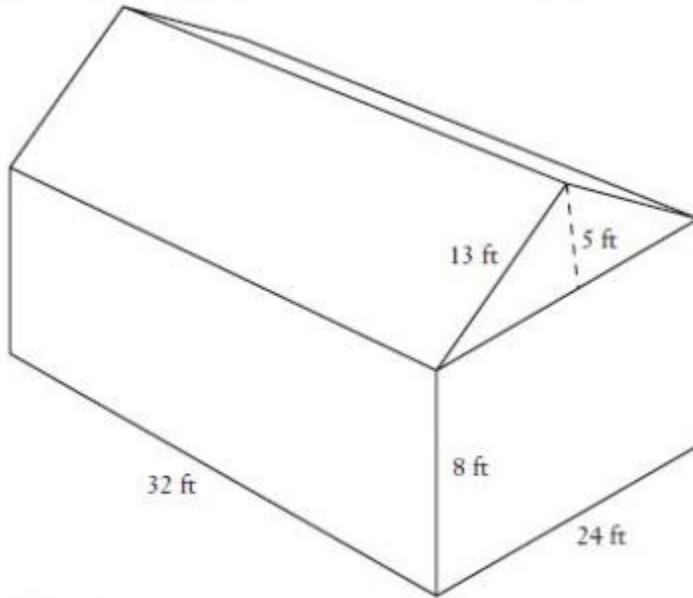


Figure 4.

1. The building plan calls for a slate roof. The Smith's request an estimate for shingles. To give an estimate the contractor must calculate the area of the roof. What is the roof's area?
2. The architect suggests painting the siding to get the color preferred by the Smith's. She asks the contractor for an estimate of the cost to paint the house. The area to be painted includes the two triangular gable ends. (One of the gables is visible in Figure 4.) The paint covers about 350 square feet per gallon. How many gallons of paint should be included in the estimate if the building will get two coats?
3. If 10% of the building's four rectangular walls are windows that do not need painting, does the amount of paint needed by the painter decrease?

Source: Adapted from ResourceMap, used with permission.

Task-to-Mathematical Practice Alignment Recording Sheet

Task Name	Aligned CCSS Mathematical Practice Standards	Content Rating	Perfor- mance Rating	Alignment Comments (Standards selection, partial alignments, reasons for rating, etc)	Task Comments (Strengths, weaknesses, possible improvements, effectiveness, etc)
		N/A			
		N/A			
		N/A			
		N/A			
		N/A			
		N/A			

Task-to-CCSS Alignment Recording Sheet

Task Name	Aligned CCSS Content Standards	Content Rating	Performance Rating	Alignment Comments (Standards selection, partial alignments, reasons for rating, etc)	Task Comments (Strengths, weaknesses, possible improvements, effectiveness, etc)

Task-to-Cluster/Pathway Knowledge and Skills Alignment Recording Sheet

Task Name	Aligned Cluster/Pathway Knowledge/Skill	Content Rating	Performance Rating	Alignment Comments (Standards selection, partial alignments, reasons for rating, etc)	Task Comments (Strengths, weaknesses, possible improvements, effectiveness, etc)